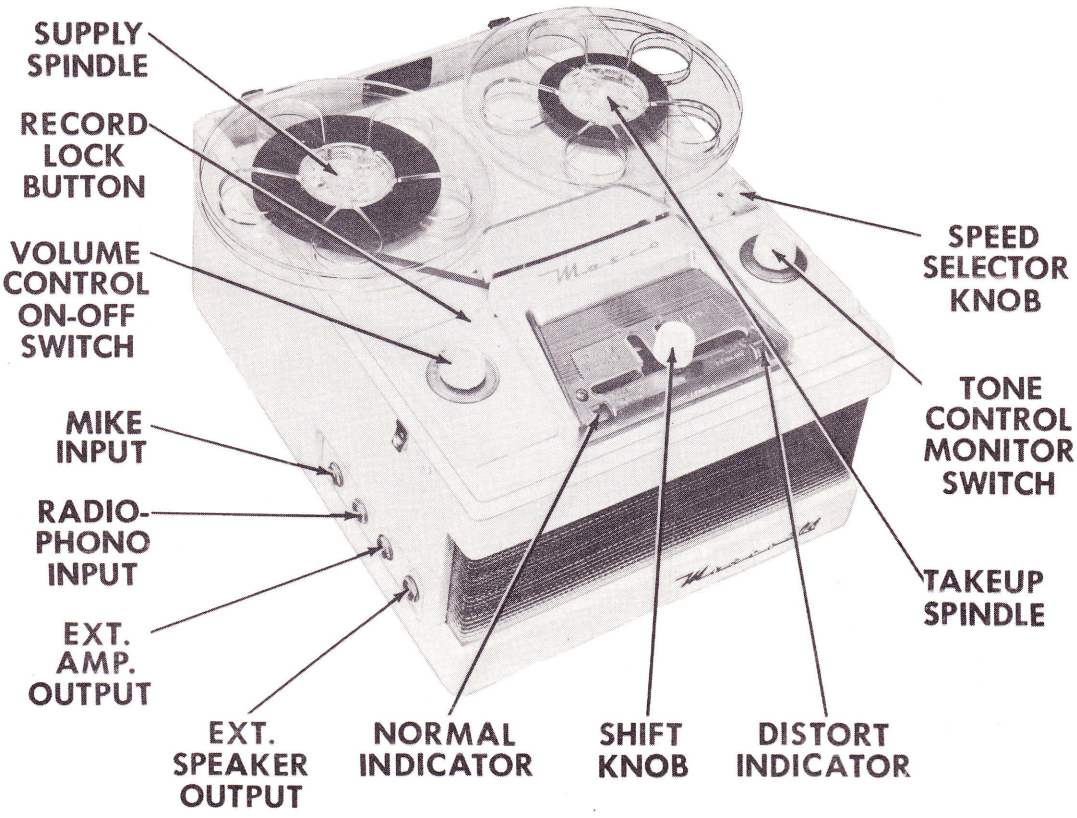


Figure 1

GENERAL INFORMATION

The Masco Model 500 is a dual track, two speed (3.75 and 7.50 ips) tape recorder. A single control knob is used to select the Rewind, Fast Forward, Play, Standby, Record, and Stop functions. There are two inputs: Microphone and Radio-Phono, and two outputs: External Amplifier and External Speaker.

Recordings can be made from a radio, television receiver, or phonograph, in addition to those made directly from the microphone. Recordings can be played back through the self-contained speaker or an external speaker may be used through use of the "External Speaker Output". Should additional power be desired, an external amplifier may be connected to the "External Amplifier Output" jack.

The Masco Model 500 is designed to operate on 60 cycle, 110-120 volts, AC supply only. Before connecting to your line supply be absolutely certain that it agrees with the above specifications.

Manufactured by:

Mark Simpson Mfg. Co., Inc.
32-28 Forty-Ninth Street
Long Island City 3, N. Y.

This material compiled and published by

HOWARD W. SAMS & CO., INC., INDIANAPOLIS, INDIANA

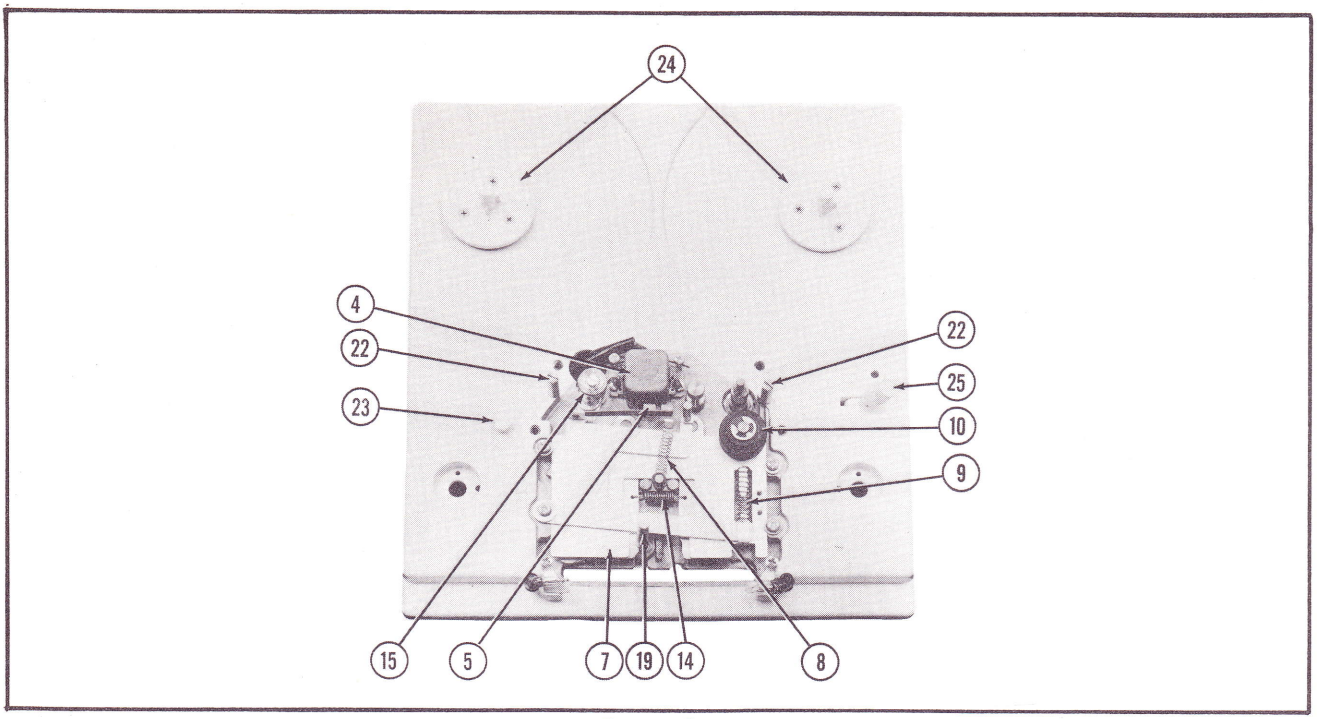


Figure 2

OPERATING INSTRUCTIONS

Preparing For Operation-

1. Remove top cover of carrying case by opening latch bolts and sliding cover off its pins (to the right).

2. Before connecting to line supply, be sure to remove the shipping screw from the top plate. A tag is attached to it to mark it clearly. This shipping screw is used only to protect the recorder while in transit and must be removed for normal use.

Threading The Tape-

1. Use "A" wound plastic base tape (glossy side out). If tape has a gummed piece of tape at the beginning, remove it to prevent the gummy layer from being deposited on the record head which would result in faulty operation of the unit.

2. Place shift knob (1) in the "Stop" position.

3. Place an empty reel on the right hand (Takeup) spindle.

4. Place a full reel of tape, from which a 2-foot length has been unwound, on the left hand (supply) spindle. Make sure the glossy side of the tape faces the front of the unit. Make sure that the reels are fully seated on the spindles.

5. Hold a section of tape straight with both hands and insert the tape in the tape slot. Insert the free end of the tape into the slot in the hub of the empty reel. Rotate the empty reel counterclockwise, by hand, until the tape is secured to the reel and all slack is taken up between reels.

To Record From Microphone-

1. Place the speed change knob (25) in the desired speed position.

NOTE: Speed changes may be effected in any position except "Record" or "Play".

2. Insert the line cord plug into a convenient wall receptacle of the proper rating.

3. Turn the On-Off Volume Control to the right until a click is heard and allow about thirty seconds for the unit to warm up, at which time the "Normal" indicator will glow.

4. Insert the microphone plug into the "Microphone Input" jack.

5. Place the shift knob (1) in "Standby" position. The "Normal" indicator will go out. Talk directly into the microphone in a normal voice, holding the microphone about 12 inches from the lips. The "Standby" position permits the pre-setting of the recording level before actually recording.

6. Observe both the "Normal" indicator and the "Distorted" indicator. Advance the volume control clockwise, while talking, to a point just before the "Distorted" indicator flickers. This is the proper recording level.

NOTE: The Tone Control has no effect while recording.

To Record From Radio, Phono, On T. V. -

1. A six foot patch cord with spring clips at one end and a phone plug on the other is provided for recording from a radio, phonograph, or television receiver. To record directly from a radio or T. V. set, connect the spring clips directly across the voice coil terminals on the speaker and insert the phone plug into the "Radio-Phono Input" jack. To record directly from a phonograph, connect the spring clips across the output of the phono cartridge. Be certain to observe polarity by connecting copper braid shield to copper braid shield.

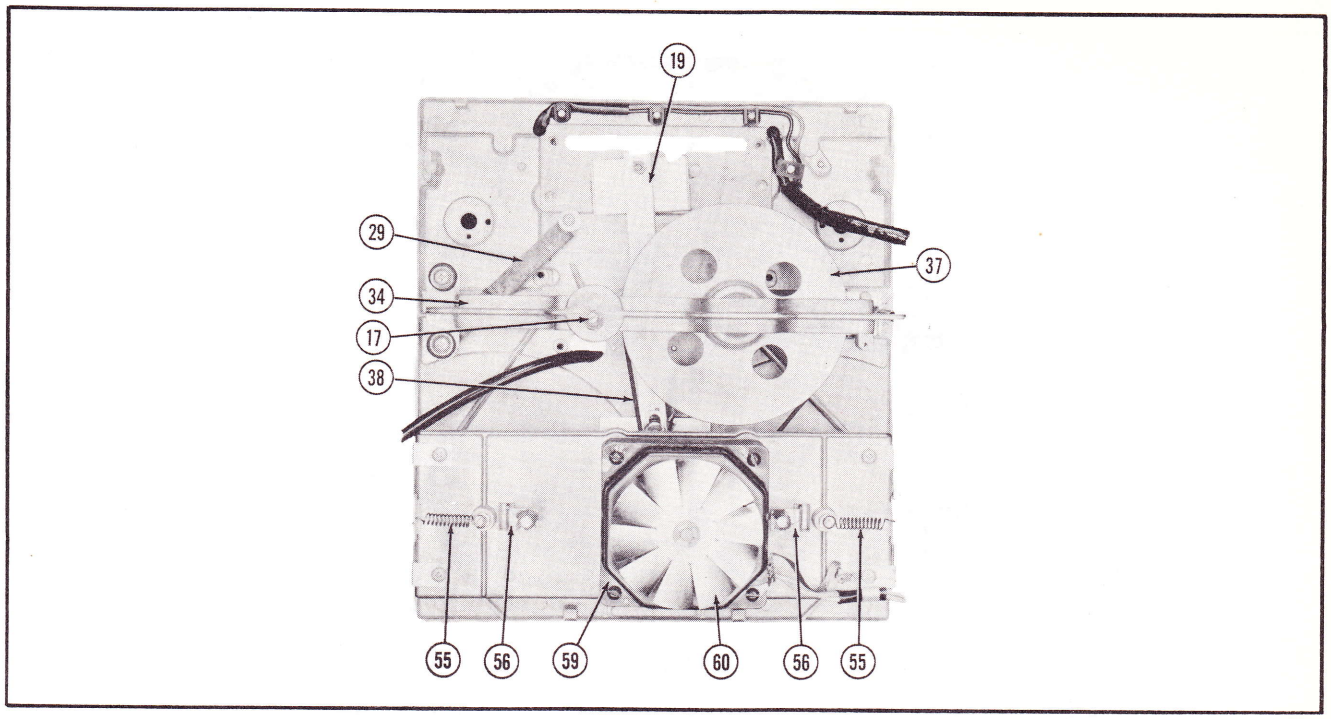


Figure 3

2. Proceed with the recording as described under "To Record From Microphone".

3. While recording, it may be desired to by-pass commercials. Place shift knob (1) in the "Standby" position. Note that the "Normal" indicator continues to flicker. After the commercial has been completed, press the record lock button (23) and place shift knob (1) in the "Record" position. This feature permits the by-passing of commercials without resetting the recording level.

Dual Track Recording-

The Masco is designed so that only one-half the tape width is recorded at a time, thereby resulting in two track recording. This two track operation is accomplished in the following manner:

1. After a reel of tape has been recorded, i.e. all the tape wound onto the take-up reel, place shift knob (1) in the "Stop" position.

2. Remove the reels from the recorder, turning the full reel over and placing it on the left (supply) spindle and the empty reel on the right (takeup) spindle.

3. Properly thread the tape and proceed with the recording.

4. After the second track has been recorded the first track of recording is ready to be played, without rewinding, by reversing the reels as described in Step #2 above.

Fast Forward And Fast Rewind-

High-speed forward or reverse can be obtained by moving the shift knob (1) to either the "Fast Forward" or "Fast Rewind" position. When the unit is in one of these positions, tape will be wound on the desired reel at a high speed.

To Play A Recording-

1. Thread tape as described under "Threading The Tape".

2. Turn recorder on and wait for the "Normal" indicator to light.

3. Turn the "Monitor" switch (located on Tone control) on.

4. Place shift knob (1) in the "Play" position and adjust the "Volume" and "Tone" controls for desired listening level.

To Change Tape Speed-

1. Place shift knob (1) in the "Stop" position.

2. Place speed change knob (25) in the desired position, 3.75 or 7 1/2 inches per second.

NOTE: Insofar as quality of recording-reproduction is concerned, it is generally agreed that speed is an all important factor. The higher the speed, the greater will be the fidelity.

To Monitor While Recording-

There are three ways of listening to a program while it is being recorded, through the built-in speaker, an external speaker, or headphones.

1. Turning the switch on the Tone Control to "On" connects the built-in speaker while material is being recorded.

2. If an external speaker is plugged into the "External Speaker" jack, the program will be heard on the external speaker and not on the internal speaker.

3. Headphones of the crystal, high impedance type, may be plugged into the "External Speaker" jack

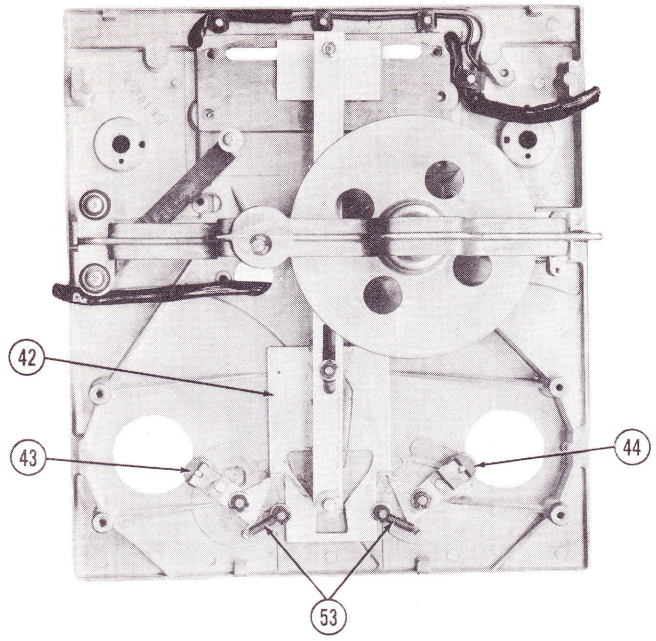


Figure 4

and the recorded signal will be heard on the headphones but not on the internal speaker.

A. Headphones of the crystal, high impedance type are best plugged into the "External Amplifier" jack, but the recorded signal will also be heard through the built-in speaker.

To Use External Speaker-

Any speaker of the permanent magnet type, having a voice coil impedance of from 3.2 to 16 ohms may be used. Connect the spring clips of the patch cord to the voice coil terminals on the external speaker. Insert the phone plug into the "External Speaker" jack. This automatically disconnects the built-in speaker of the recorder.

To Use An External Amplifier-

Should additional power be desired, connect the patch cord between the "External Amplifier" jack and any high impedance Radio or Phono input of an external amplifier.

MECHANICAL FUNCTIONS

Drive Mechanism-

The drive mechanism consists of the following:

1. The drive motor (59). The drive motor is used to drive the flywheel and capstan assembly (37), and the reeling mechanisms. A fan is attached to the drive motor shaft to cool the motor.

2. Rubber belts (38), (51), and (52). These belts are used to couple the motor pulley, which is secured to the motor shaft, to the flywheel (37) and to the reeling mechanisms. Belt (38) drives the flywheel and belt (51) drives the reels in the Fast Forward and Fast Rewind positions. Belt (52) is the takeup belt.

3. The capstan. The capstan is attached to a balanced flywheel (37) and drives the tape at a constant rate of speed. The top capstan bearing is of the "Oilite" type and the bottom one is the rounded end of the capstan shaft which serves as a thrust bearing.

4. The pressure pads (5) and capstan roller (10). The pressure pads and capstan roller are assembled on the capstan pressure plate (7) and capstan roller plate (11). When shift knob (1) is placed in either the "Play" or "Record" position, capstan roller (10) and pressure pads (5) press the tape against the capstan and play-record-erase head (4).

5. Speed Change Mechanism. The speed change mechanism consists of the speed change lever (34), flywheel and capstan (37), and speed change cam (32). Speed change lever (34) is mounted in such a manner that when speed change cam (32) is actuated the speed change lever (34) is pivoted up or down. This, in turn, causes the flywheel and capstan assembly (37) to move up or down. When the capstan is in the "Up" position, the large capstan surface rides against the capstan roller (10) and drives the tape at a constant speed of 7 1/2 inches per second. When the capstan is in the "Down" position, the small capstan surface rides against the capstan roller (10), driving the tape at 3 3/4 inches per second.

6. Fast Forward. When shift knob (1) is placed in the "Fast Forward" position:

A. Control lever (19) actuates brake cam slide (42), which, in turn, releases both brakes (43 and 44).

B. Control lever (19) moves the spindle control plate (64) to the left. The right hand end of control plate (64) rides up the right hand spindle cam (56) and raises the takeup spindle pulley (50) into contact with the felt disc on the takeup spindle spacer (49). The felt disc acts as a friction clutch

and is now in a position to drive the takeup reel.

C. The left end of spindle control plate (64) rides down the left spindle cam (56) and permits the supply spindle pulley (48) to drop away from the felt disc on the supply spindle spacer (47). This action permits the supply reel to be turned freely.

D. The takeup belt (52), which is driven by drive motor (59), drives the takeup reel at a high rate of speed.

7. Fast Rewind. When shift knob (1) is placed in the "Fast Rewind" position:

A. Control lever (19) actuates brake cam slide (42), which, in turn, releases both brakes (43 and 44).

B. Control lever (19) moves the spindle control plate (64) to the right. The left end of control plate (64) rides up the left spindle cam (56) and raises the supply spindle pulley (48) into contact with the felt disc on the supply spindle spacer (47). The felt disc acts as a friction clutch and is now in a position to drive the supply reel.

C. The right hand end of spindle control plate (64) rides down the right hand spindle cam (56) and permits the takeup spindle pulley (50) to drop away from the felt disc on the takeup spindle spacer (49). This action permits the takeup reel to be turned freely.

D. The drive belt (51), which is driven by the drive motor (59), drives the supply reel at a high rate of speed.

8. Play and Record. When shift knob (1) is placed in either the "Play" or "Record" position:

A. Control lever (19) actuates brake cam slide (42) which releases both brakes (43 and 44). Simultaneously, control lever (19) moves the pressure pads (5) into contact with the tape, and pressure roller (10) into contact with the capstan.

B. When in the "Play" or "Record" position, the friction between the takeup spindle pulley (50) and the felt disc on the takeup spindle spacer (49) is just great enough for the takeup reel to take up the tape fed to it by the capstan.

MECHANICAL ADJUSTMENTS

Head Alignment Adjustment-

It is very important that the play-record head (4) be lined up perfectly with the tape. If it is not, low output, loss of high frequencies, or track overlap may result.

NOTE: The head (4) was aligned and cemented in place at the factory and should not require adjustment unless it becomes faulty and requires replacement.

If necessary, adjust as follows:

1. Obtain an alignment tape on which a constant cycle note has been recorded.

2. Connect an output meter or AC voltmeter across the speaker voice coil. Slightly loosen the adjustment screws, located at the sides of the head. While playing the alignment tape, pivot the head back and forth until maximum amplitude on the output meter is achieved.

Clutch Adjustments-

In general, most of the difficulties that will normally be encountered in the Masco Model 500 tape transport mechanism will be traceable to contamination of belts, pulleys, bearings, and other friction surfaces, due to careless lubrication or to the gradual accumulation of dirt and other foreign material to be expected over a reasonable length of time. Correction of these difficulties will usually be a matter of careful disassembly and cleaning, rather than readjustment of the mechanism. The normal torques (and hence, tape tension) in this mechanism are fixed at time of manufacture and should require no further adjustment. Since the measurement of these torques will frequently provide a rapid means for isolating the source of mechanical troubles, their values and the procedures for measuring them are given in the following section.

The measurement of torques requires the following equipment:

1. A light movement 0 - 8 oz. spring scale.

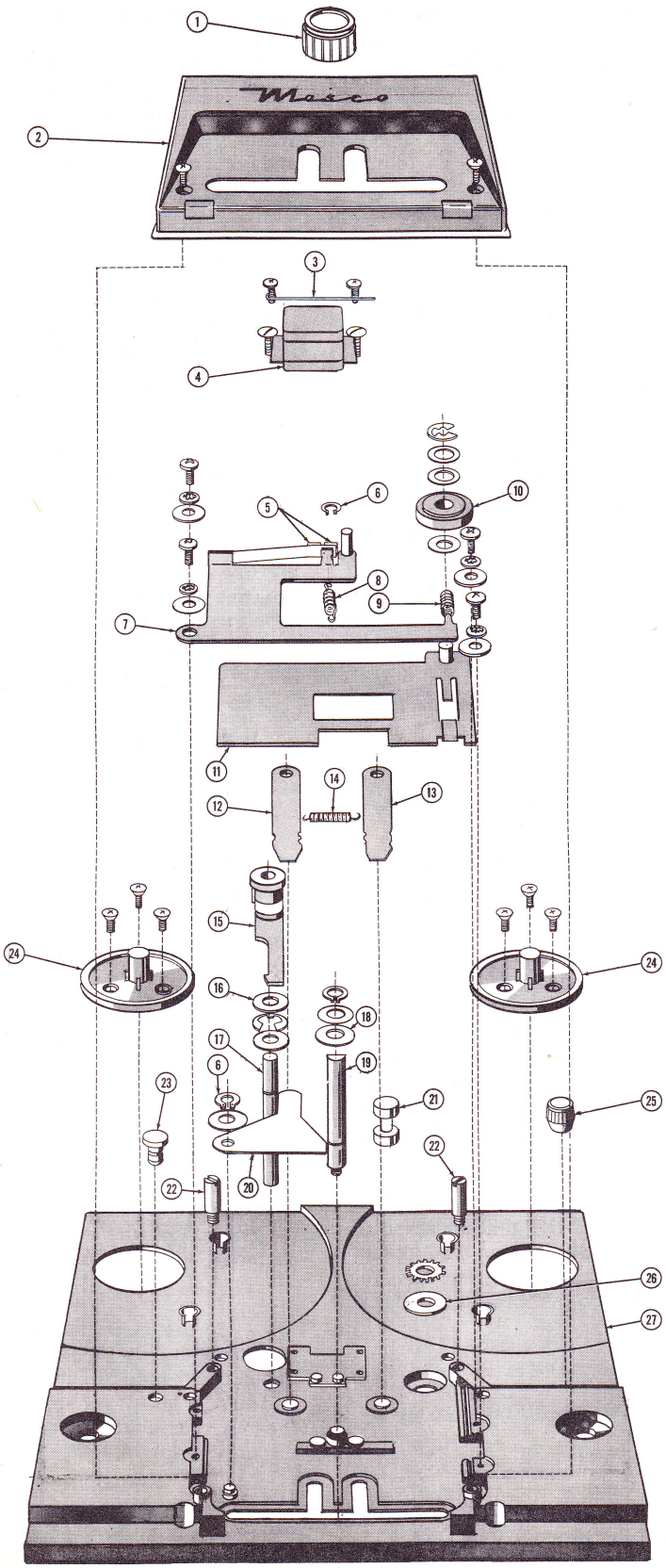
2. A measuring hub. A standard RTMA plastic reel may be used. If the hub diameter is exactly 2 inches, the spring scale will read directly in ounce/inches. Reels with smaller hubs can be brought up to the 2-inch diameter by winding on sufficient tape. If a reel of greater than 2-inch hub diameter is used, multiply the spring scale by the hub radius to obtain the ounce/inch reading.

3. A piece of string, approximately 30 inches long, with a loop tied in one end.

Torques measured on the driven turntable in any mode, (i. e. the turntable on which the tape is being wound) are a measure of takeup tension. Torques measured on the turntable from which the tape is pulled in any mode are a measure of holdback tension.

To measure takeup tension, place the measuring hub on the driven turntable. Wind a few turns of string around the hub in the direction of normal tape wrap, and attach the spring scale to the loop at the end. Start the machine in the appropriate mode and note the reading on the spring scale.

To measure holdback tension in the "Play" or "Record" position, place the measuring hub on the supply spindle. Wind the string on fully in the direction of normal tape wrap, and attach the spring scale. Place shift knob (1) in the "Play" or "Record" position but do not turn the machine "On". Pull the scale slowly in the direction in which tape is normally pulled from this reel, taking the reading while the scale is in steady motion.



A PHOTOFACT "EXPLODED" VIEW

FIGURE 5A. EXPLODED VIEW OF PARTS ABOVE BASEPLATE.

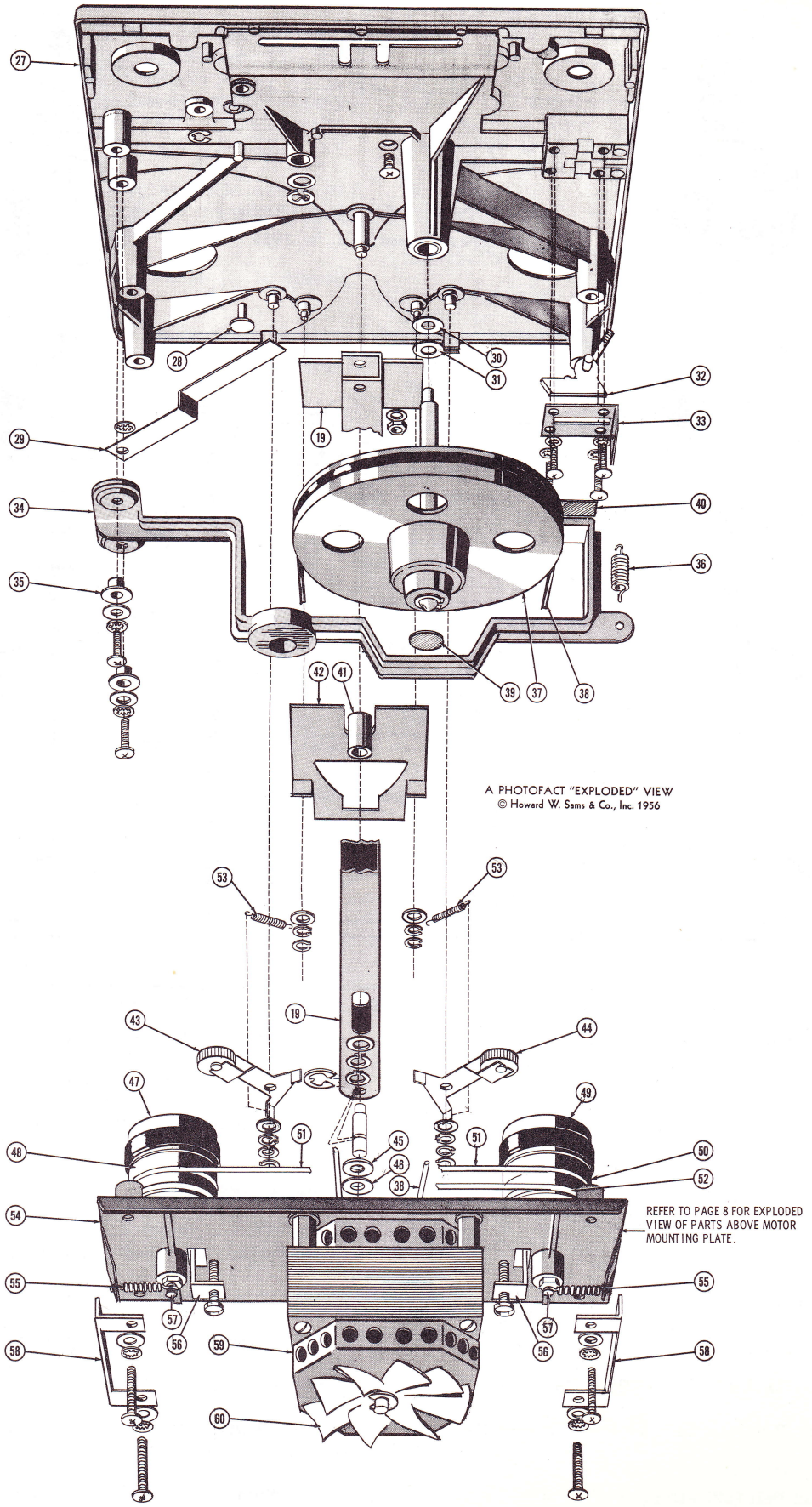
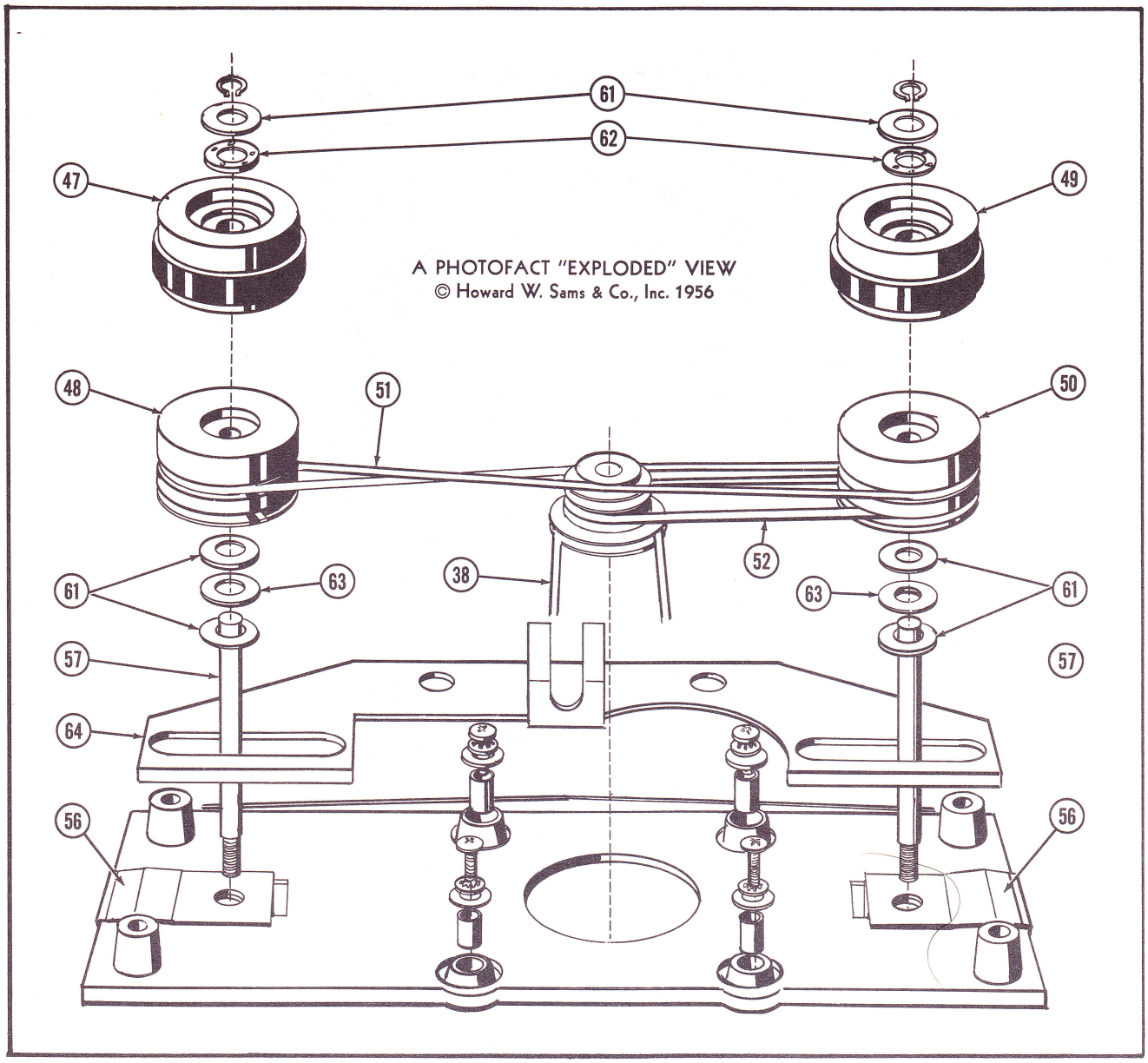


FIGURE 5B. EXPLODED VIEW OF PARTS BELOW BASEPLATE.



EXPLODED VIEW OF PARTS ABOVE MOTOR MOUNTING PLATE.

Normal torques are as follows:

Takeup Reel-

Fast Forward - - - - - - - - - - - - - - - - - 3 1/2 oz.
Play/Record - - - - - - - - - - - - - - - - - 1 oz.

Supply Reel-

Rewind - 3 1/2 oz.
Play/Record - - - - - - - - - - - - - - - - - 1/2 oz.

Should any adjustments be necessary, these may be made by means of the adjustment screws on the spindle cam assemblies (56).

TROUBLES AND PROBABLE CAUSES

Tape Fails To Wind On Takeup Reel During Record Or Playback-

1. Takeup belt (52) slipping or broken.

2. Takeup clutch not adjusted properly. Check adjustment as described under "Clutch Adjustments".

3. Capstan roller spring (9) broken or missing.

4. Drive belt (38) slipping or missing.

5. Spindle cam spring (55) broken or missing.

No Fast Forward-

1. Takeup clutch not adjusted properly. Check adjustment as described under "Clutch Adjustments."

2. Spindle cam spring (55) broken or missing.

3. Takeup belt (52) slipping or broken.

No Fast Rewind-

1. Rewind clutch not adjusted properly. Check adjustment as described under "Clutch Adjustments".

2. Spindle cam spring (55) broken or missing.

3. Takeup belt (52) or drive belt (51) slipping or broken.

Speed Variation — "Wow"-

1. Check the capstan shaft, capstan roller (10), capstan drive belt (38), takeup belt (52), flywheel (37), and the motor pulley for oil or grease. If necessary, clean these parts with alcohol.

2. Check all rotating parts for binding. If parts are found that bind due to dirt or lack of lubrication, disassemble, clean, and lubricate as described under "Lubrication".

CLEANING

The play-record-erase head (4), capstan, and capstan roller (10) are subject to an accumulation of tape coating oxide which is worn off the tape as it passes these parts. To assure optimum performance, this accumulation should be periodically removed with alcohol on a soft cloth.

LUBRICATION

Lubricants applied at time of manufacture are sufficient to last for a long period of time, but in case parts are replaced or approximately once a year, lubricate as follows:

Apply S. A. E. #5 Motor oil to:

1. Top capstan bearing. Place one drop of oil on top bearing. Caution: Be sure no oil is on the portion of capstan extending above baseplate.

2. Top and bottom motor bearing. Place one drop of oil on each bearing and run the motor for a few minutes. Wipe away excess oil.

3. Both spindle bearings (62). Remove the spindle head assemblies (24) and place two drops of oil on each bearing.

Apply "Lubriplate" to the following:

1. The bearing surface on the bottom of flywheel (37).

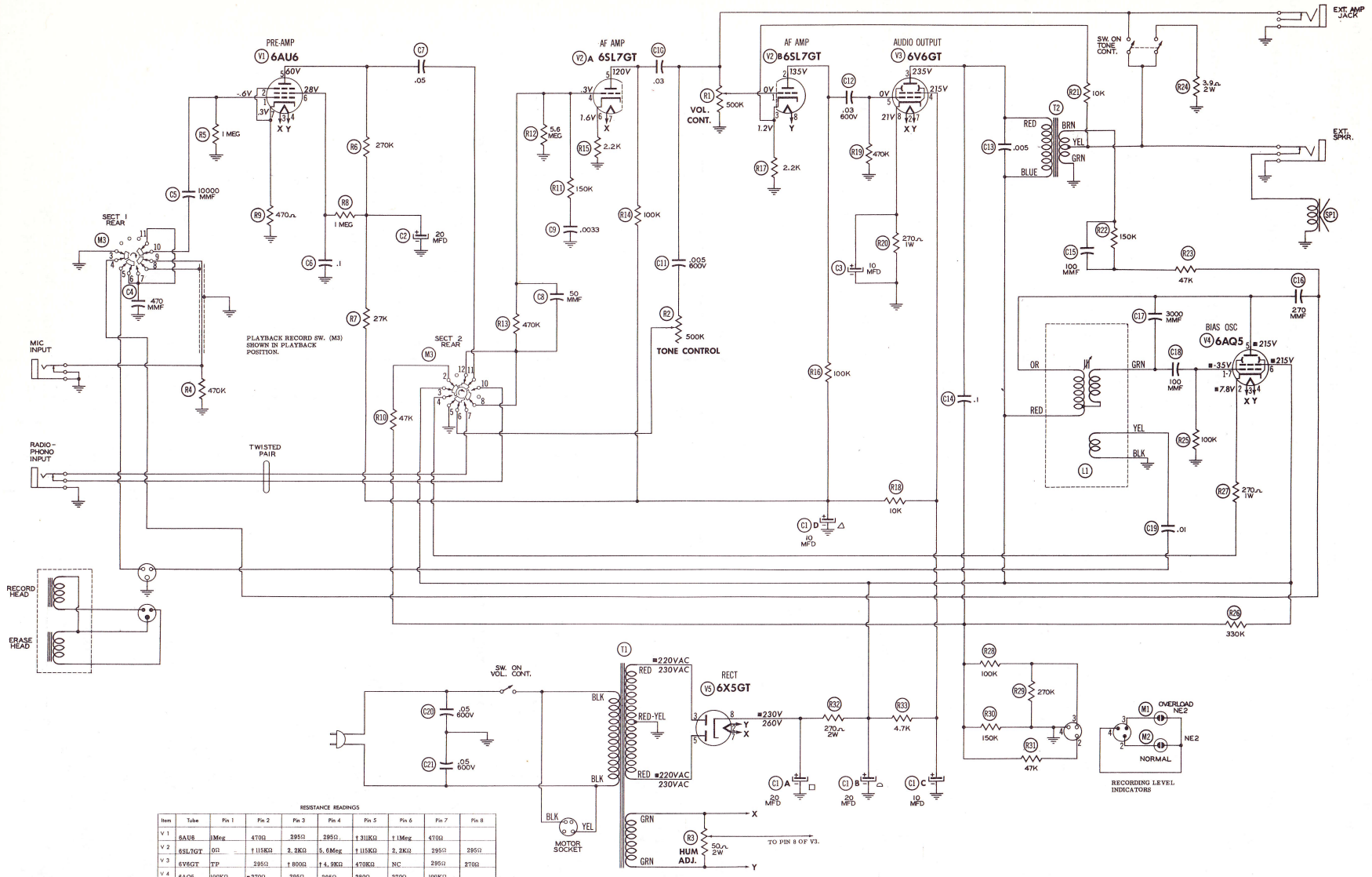
2. Apply a thin film on the cam plate (40) at the point where the speed change cam (32) rides.

3. Apply a thin film to the pivot points and sliding surfaces of all other cams and levers.

CAUTION: Oil and grease must be kept off all rubber belts and pulley surfaces. If any such parts should become contaminated, clean immediately with alcohol.

MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	1376	Shift Knob	34	1761	Speed Change Lever
2	1375	Front Cover	35	1768	Speed Change Spacer
3	1405	Record Head Retaining Spring	36	1774	Speed Change Spring
4	1816	Record Head Assembly	37	1818	Flywheel Assy.
5	1487	Head Pad	38	1401	Drive Belt
6		Truarc Retaining Ring	39	1772	Flywheel Fibre Plate
7	1819	Capstan Pressure Plate Assy.	40	1771	Cam Fibre Plate
8	1525	Capstan Roller Return Spring	41	1501	Control Lever Bushing
9	1491	Capstan Roller Spring	42	1323	Brake Cam Slide
10	1310	Capstan Roller Assembly	43	1518	Brake Lever Assy. (left)
11	1822	Capstan Roller and Mtg. Plate Assy.	44	1517	Brake Lever Assy. (right)
12	1486	Latch Plate	45	1514	Spindle Felt Washer
13	1486	Latch Plate	46	1523	Fibre Thrust Washer
14	1320	Latch Spring	47	1512	Supply Spindle Spacer Assy.
15	1826	Tape Guide Arm and Cover Assy.	48	1379	Spindle Pulley
16	1523	Spindle Thrust Fibre Washer	49	1983	Takeup Spindle Spacer Assy.
17	1519	Tape Guide Shaft	50	1379	Spindle Pulley
18	1319	Shift Handle Washer	51	1401	Drive Belt
19	1823	Control Lever Assy.	52	1403	Takeup-Drive Belt
20	1342	Record Switch Actuator	53	1506	Brake Lever Spring
21	1296	Tape Guide	54	1311	Motor Mounting Plate
22	1773	Tape Guide Stud	55	1495	Spindle Cam Spring
23	1719	Record Lock Button	56	1499	Spindle Cam Assy.
24	1817	Spindle Head Assy.	57	1292	Spindle Shaft
25	1767	Speed Change Knob	58	1999	Cam Retaining Plate
26	1524	Flywheel Thrust Felt Washer	59	1498	Drive Motor Assy.
27	1824	Top Plate Assy.	60	1611	Motor Fan
28	1724	Record Lock Pin	61	1523	Spindle Fibre Washer
29	1723	Record Lock Spring	62	1515	Spindle Bearing
30	1521	Flywheel Thrust Fibre Washer	63	1514	Spindle Felt Washer
31	1524	Flywheel Thrust Felt Washer	64	1299	Spindle Control Plate
32	1762	Speed Change Cam	65	1482	Motor Mount Spacer
33	1770	Cam Retaining Plate	66	1483	Motor Shock Grommet



RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	6AU6	1Meg	470Ω	295Ω	295Ω	†.31MΩ	†.1Meg	470Ω	
V 2	6SL7GT	0Ω	†.115KΩ	2.2KΩ	5.6Meg	†.115KΩ	2.2KΩ	295Ω	295Ω
V 3	6V6GT	TP	295Ω	†800Ω	†4.9KΩ	470KΩ	NC	295Ω	270Ω
V 4	6AQ5	100KΩ	■270Ω	295Ω	295Ω	280Ω	270Ω	100KΩ	
V 5	6X5GT	NC	295Ω	325Ω	TP	325Ω	NC	295Ω	50KΩ

ALL MEASUREMENTS TAKEN IN PLAY POSITION UNLESS DESIGNATED OTHERWISE.
■ MEASURED IN RECORD POSITION.
NC – NO CONNECTION
TP – TIE POINT
† MEASURED FROM PIN 8 OF V5.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

317-9

PARTS LIST AND DESCRIPTIONS

TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	REPLACEMENT DATA		NOTES
		MASCO PART No.	STANDARD REPLACEMENT	
V1	Preamplifier	6AU6	6AU6	
V2	AF Amplifier	6SL7GT	6SL7GT	
V3	Audio Output	6V6GT	6V6GT	
V4	Bias Oscillator	6AQ5	6AQ5	
V5	Rectifier	6X5GT	6X5GT	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	MASCO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SANGAMO PART No.	SPRAGUE PART No.
C1A	■20	450		AFH4-19-10	D012	FP474.5	TM-4053	Q-060	TVL-4826
B	▲20	450			BR1045				
C	10	450							
D	▲10	450							
C2	20	250		PRS250V20	BR2035	TC55	TD-20-250	FM-2520	TVA-1508
C3	10	50		PRS50V10	BR105	TC32	TD-10-50	MMT-0510	TVA-1304

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	MASCO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C4	470	500		SI470	D6-471	5W5T47	GP2K-471	MC245	1FM-347	
C5	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C6	.1	200		P288N-1	DF-104	CUB2P1		PT401	2TM-P1	
C7	.05	200		BPD-05	DF-503	CUB2S5		PT415	2TM-S5	
C8	50	500		SI50	D6-500	5W5Q50	GP1K-500	MC225	1FM-45	
C9	.0033	400		SI3300	D6-332	CUB6D33	GP2-333-332	PT6233	6TM-D33	
C10	.03	400		BPD-03	DF-303	CUB6S3		PT613	6TM-S3	
C11	.005	600		SI5000	D6-502	CUB6D5	GP2-333-502	PT625	6TM-D5	
C12	.03	600		BPD-03	DF-303	CUB6S3		PT613	6TM-S3	
C13	.005	400		SI5000	D6-502	CUB6D5	GP2-333-502	PT625	6TM-D5	
C14	.1	400		P488N-1	DF-104	CUB4P1		PT401	4TM-P1	
C15	100			N750-D1100	TCN-100	N042	N750L-101	NT-531	5TCU-T1	
C16	270	500		SI270	D6-271	5W5T27	GP2K-271	MC241	1FM-327	
C17	3000	500		SI3000	D6-302	1W5D3	GP2-333-302	MC461	1FM-23	
C18	100	500		SI100	D6-101	5W5T1	GP1K-101	MC235	1FM-31	
C19	.01	400		BPD-01	D6-103	CUB4S1	GP3-333-103	PT411	4TM-S1	
C20	.05	600		BPD-05	DF-503	CUB6S5		PT615	6TM-S5	
C21	.05	600		BPD-05	DF-503	CUB6S5		PT615	6TM-S5	

CONTROLS

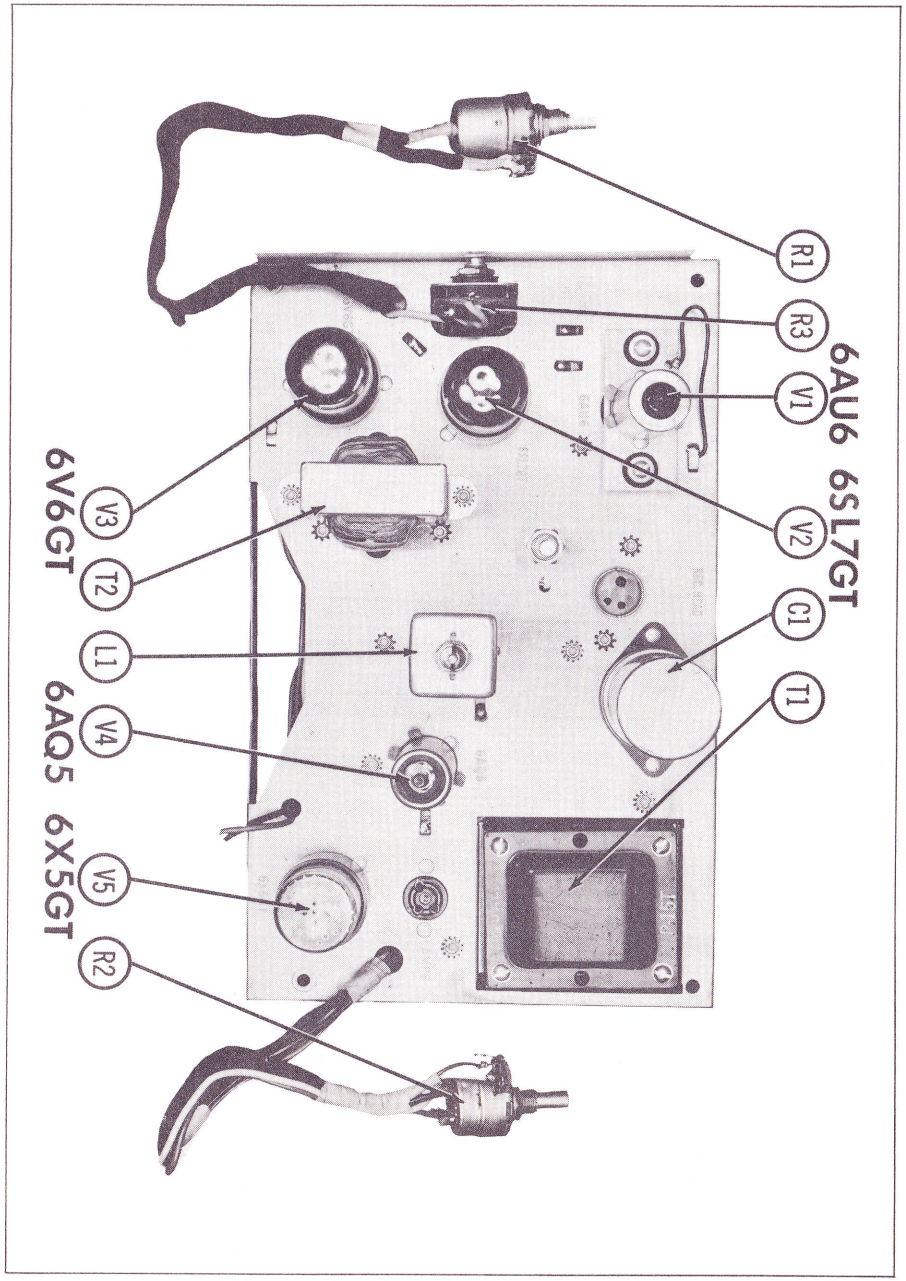
ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	MASCO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	500KΩ	½		AB-60	A47-500K-Z	Q13-133	U-48	Volume
B	Shaft			AK-3	FS-3	Not Req.	Not Req.	Attach to R1A
C	Switch			KB-1	SWE-12	76-1	US-26	Attach to R1A
D	Cover			KB-5				Attach to R1C
R2A	500KΩ	½		B-61-S		Q17-133		Tone
B	Switch			Not Req.		76-2		Attach to R2A
R3A	50Ω	2			A43-50		C50P	Hum Adjustment
B	Shaft				FKS-1/4		Not Req.	Attach to R3A

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	MASCO PART No.	IRC PART No.	
R4	470KΩ	½		BTS-470K	
R5	1Meg	½		BTS-1Meg	
R6	270KΩ	½		BTS-270K	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	MASCO PART No.	IRC PART No.	
R7	27KΩ	½		BTS-27K	
R8	1Meg	½		BTS-1Meg	
R9	470Ω	½		BTS-470	

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	MASCO PART No.	IRC PART No.	
R10	47KΩ	1/2		BTS-47K	
R11	150KΩ	1/2		BTS-150K	
R12	5.6Meg	1/2		BTS-5.6Meg	
R13	470KΩ	1/2		BTS-470K	
R14	100KΩ	1/2		BTS-100K	
R15	2200Ω	1/2		BTS-2200	
R16	100KΩ	1/2		BTS-100K	
R17	2200Ω	1/2		BTS-2200	
R18	10KΩ	1/2		BTS-10K	
R19	470KΩ	1/2		BTS-470K	
R20	270Ω	1		BTA-270	
R21	10KΩ	1/2		BTS-10K	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	MASCO PART No.	IRC PART No.	
R22	150KΩ	1/2		BTS-150K	
R23	47KΩ	1/2		BTS-47K	
R24	3.9Ω	2			
R25	100KΩ	1/2		BTS-100K	
R26	330KΩ5%	1/2		BTS-330K 5%	
R27	270Ω	1		BTA-270	
R28	100KΩ	1/2		BTS-100K	
R29	270KΩ	1/2		BTS-270K	
R30	150KΩ	1/2		BTS-150K	
R31	47KΩ	1/2		BTS-47K	
R32	270Ω	2		BTB-270	
R33	4700Ω	1/2		BTS-4700	

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	MASCO PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Bias Osc.	10Ω	8Ω					Tertiary Winding - 10Ω

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	MASCO PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.
T1	117VAC @ .27A	470VCT @ .042A	6.3VAC @ 2.15A					P6348		R-4B

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	MASCO PART No.	Halldorson PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	Triad PART No.	
T2	4.95KΩ								

SPEAKER

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	SIZE	FIELD	V. C. IMP.	MASCO PART No.	QUAM PART No.	RCA TYPE No.	
SP1	5" X 7"	PM	3-4Ω		57A15	257S1	

MISCELLANEOUS

ITEM No.	PART NAME	MASCO PART No.	NOTES
M1	Neon Light		NE-2 or NE-2A (Recording Level)
M2	Neon Light		NE-2 or NE-2A (Recording Level)
M3	Switch	1736	Play-Record (2 Position - Rotary, Wafer Type.)

CHASSIS—BOTTOM VIEW